Fig. 1

```
                    10          20          30          40
MP121       CCRQEFFVDF  REIGWHDWII  QPEGYAMNFC  IGQCPLHIAG
INHIB βA    CCKKQFFVSF  KDIGWNDWII  APSGYHANYC  EGECPSHIAG
INHIB βB    CCRQQFFIDF  RLIGWNDWII  APTGYYGNYC  EGSCPAYLAG
INHIB α     CHRVALNISF  QELGWERWIV  YPPSFIFHYC  HGGCGLHIP-
            *+++ +++** +++** +**+  * ++  + *  * *+++++

                    50          60          70          80
MP121       MPGIAASFHT  AVLNLLKANT  AAGTTGGGSC  C--VPTARRP
INHIB βA    TSGSSLSFHS  TVINHYRMRG  HSPFANLKSC  C--VPTKLRP
INHIB βB    VPGSASSFHT  AVVNQYRMRG  LNP-GTVNSC  C--IPTKLST
INHIB α     ---PNLSLPV  PGAPPTPAQP  YSLLPGAQPC  CAALPGTMRP
             ++ + *+++  ++ +   +        +  +*  *  +*+  ++

                    90          100         110
MP121       LSLLYYDRDS  NIVKTD-IPD  MVVEACGCS
INHIB βA    MSMLYYDDGQ  NIIKKD-IQN  MIVEECGCS
INHIB βB    MSMLYFDDEY  NIVKRD-VPN  MIVEECGCA
INHIB α     LHVRTTSDGG  YSFKYETVPN  LLTQHCACI
             ++ ++++    +++* + ++   + ++ *+*+
```

Fig. 2a EcoRI NcoI

OD	ATGAATTCCCATGGACCTGGGCTGGMAKGAMTGGAT
BMP 2	ACGTGGGGTGGAATGACTGGAT
BMP 3	ATATTGGCTGGAGTGAATGGAT
BMP 4	ATGTGGGCTGGAATGACTGGAT
BMP 7	ACCTGGGCTGGCAGGACTGGAT
TGF-β1	AGGACCTCGGCTGGAAGTGGAT
TGF-β2	GGGATCTAGGGTGGAAATGGAT
TGF-β3	AGGATCTGGGCTGGA'GTGGGT
INHIBIN α	AGCTGGGCTGGGAACGGTGGAT
INHIBIN β_A	ACATCGGCTGGAATGACTGGAT
INHIBIN β_B	TCATCGGCTGGAACGACTGGAT

Fig. 2b EcoRI

OID	ATGAATTCGAGCTGCGTSGGSRCACAGCA
BMP 2	GAGTTCTGTCGGGACACAGCA
BMP 3	CATCTTTTCTGGTACACAGCA
BMP 4	CAGTTCAGTGGGCACACAACA
BMP 7	GAGCTGCGTGGGCGCACAGCA
TGF-β1	CAGCGCCTGCGGCACGCAGCA
TGF-β2	TAAATCTTGGGACACGCAGCA
TGF-β3	CAGGTCCTGGGGCACGCAGCA
INHIBIN α	CCCTGGGAGAGCAGCACAGCA
INHIBIN β_A	CAGCTTGGTGGGCACACAGCA
INHIBIN β_B	CAGCTTGGTGGGAATGCAGCA

Fig. 3

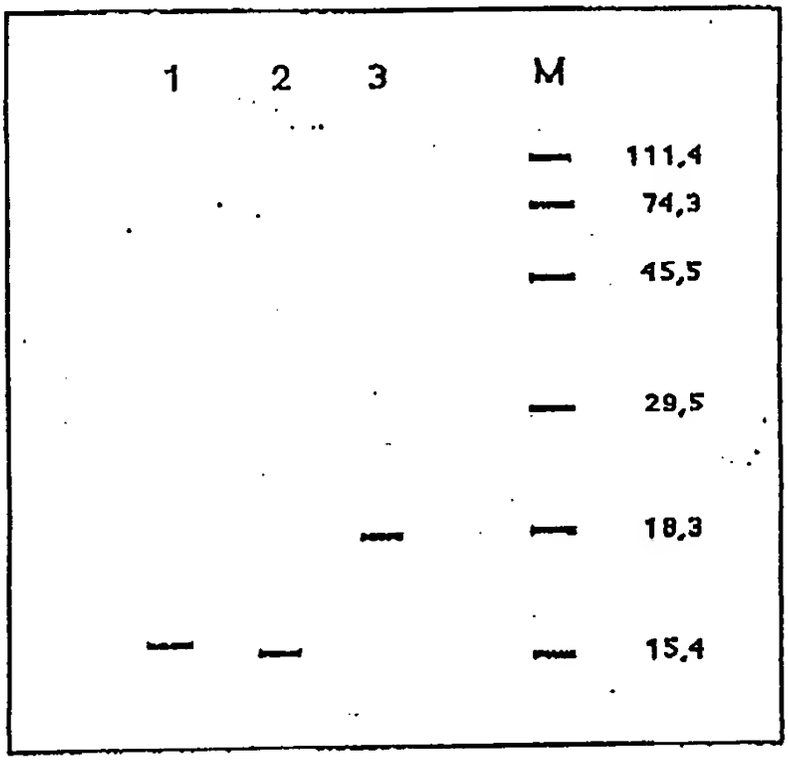

Figure 3: Diagram of a Western blot using chicken antibodies against MP121

1: E. coli cells transformed with pBP4MP121His under reducing conditions (1 % β-mercaptoethanol)
2: Cell culture supernatant of NIH-3T3 cells after infection with recombinant viruses (with inserted MP121 cDNA) under reducing conditions (1 % β-mercaptoethanol)
3: Cell culture supernatant of NIH-3T3 cells after infection with recombinant viruses (with inserted MP121 cDNA) under non-reducing conditions
M: prestained protein molecular weight markers having the stated apparent molecular weights (Gibco BRL #26041-020)

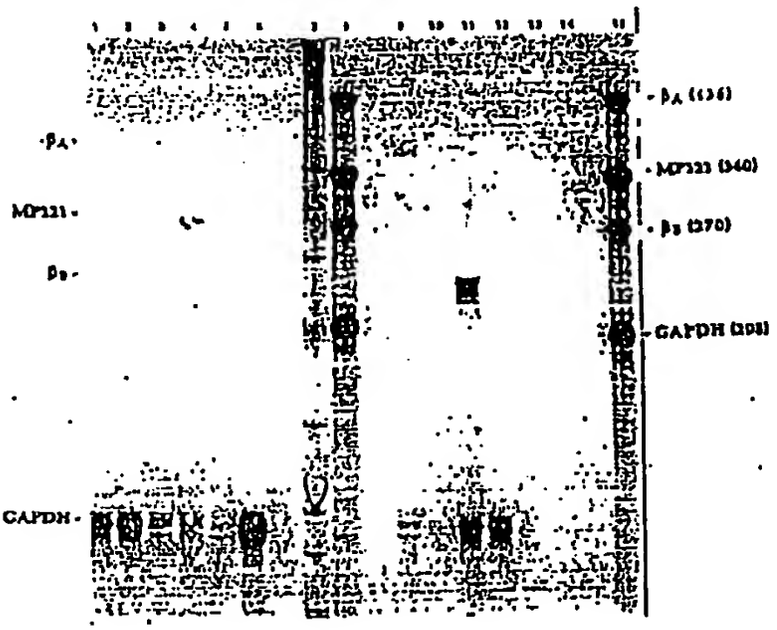

Figure 4: Autoradiogram after gel analysis of a RNAse protection assay using specific probes against activin β_A(β_A), activin β_B(β_B), MP121 and against GAPDH for the control.

Total RNA was tested which had been isolated from various mouse tissues (1: brain, 2: heart, 3: kidney, 4: liver, 5: lung, 6: muscle, 9: ovary, 10: spleen, 11: testes), from embryonic stem cells (12: CJ7) and from yeast (lane 13) as a control. No RNA was used in lane 14 as a control. The unprotected antisense RNA probes used for the hybridization are applied in lanes 8 and 15 and the expected fragment size is indicated in brackets in the right margin. The bands of the protected fragments are labelled in the left margin. pBR322 restricted with Msp I (Biolabs #303) and end-labelled with γ-^{32}P-ATP (Amersham) was used as the marker (lane 7).

Fig. 5

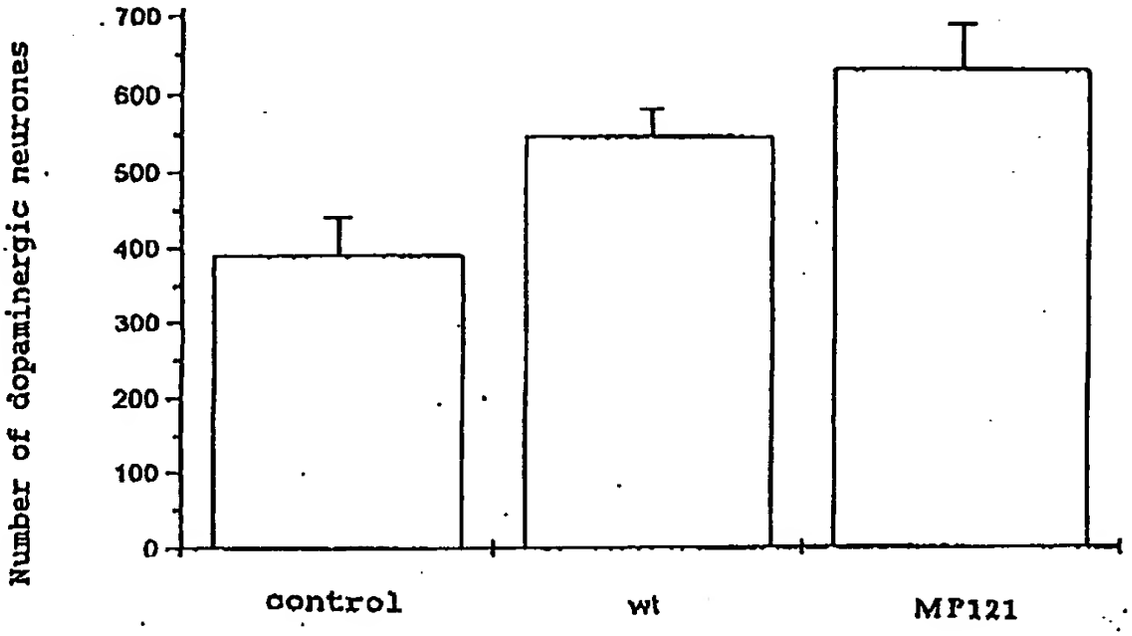

Figure 5 shows the number of TH-immunoreactive dopaminergic neurones surviving after isolation from the mesencephalon of rat embryos (E14) after 8 days culture. The effect of 20 ng/ml partially purified MP121 was tested compared to the equivalent amount of partially purified control supernatant (wt) as well as untreated neurones (control: medium containing 0.3 % acetonitrile). The mean ± SEM from a triple determination is shown.

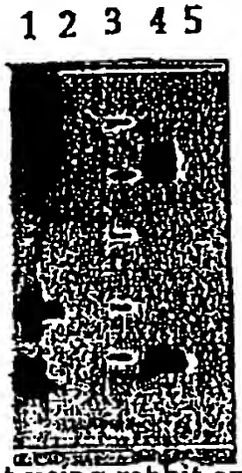

Figure 6: Western blot using rabbit antibodies against human MP121

1: cell culture supernatant of HepG2 cells after infection with recombinant viruses (with inserted MP121 cDNA) under non reducing conditions
2: cell culture supernatant of HepG2 cells after infection with wildtype viruses under non reducing conditions
3: prestained protein molecular weight marker having the apparent molecular weights of 15,5 / 18,2 / 27,8 / 43,8 / 71,5 kD (Gibco BRL #26041-020), indicated shematically
4: cell culture supernatant of HepG2 cells after infection with recombinant viruses (with inserted MP121 cDNA) under reducing conditions
5: cell culture supernatant of HepG2 cells after infection with wildtype viruses under reducing conditions

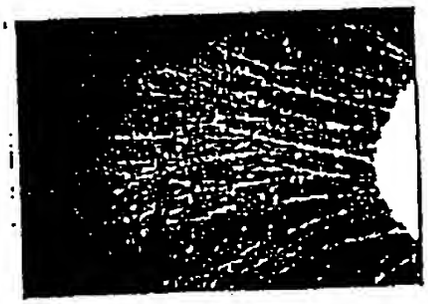

Figure 7: Nerve fibre outgrowth from explanted chicken retina after 4 days in culture in the presence of 5 ng/ml partially purified MP121. Dark-field microscopy of living cultures.

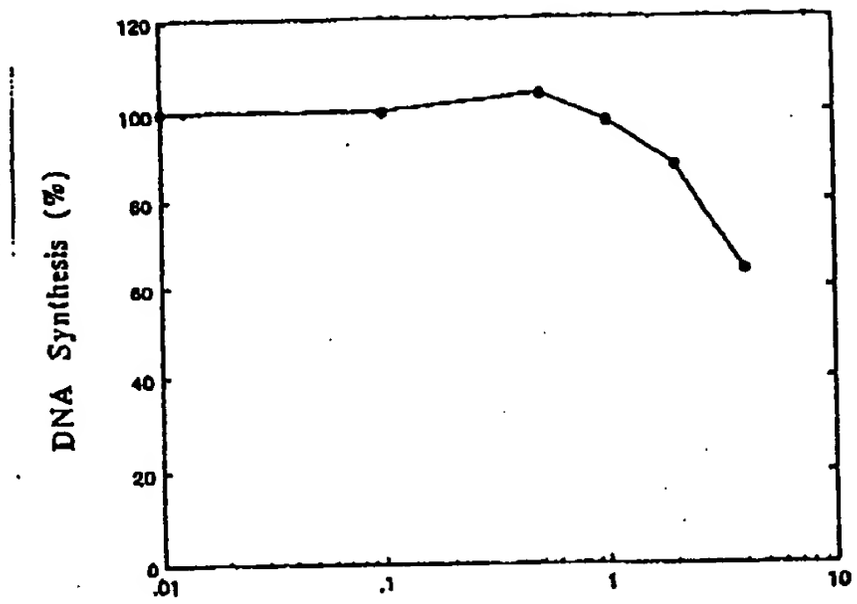

Figure 8: Effect of various concentrations of partially purified MP121 on EGF induced DNA synthesis in hepatocytes

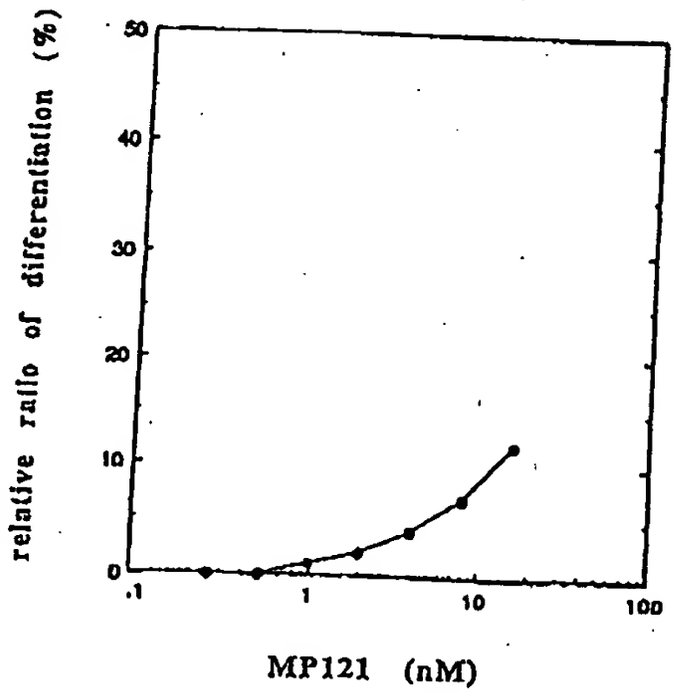

Figure 9: Effect of various concentrations of partially purified MP121 on erythroid differentiation measured by the percentage of dianisidine positive cells.